

What is claimed is:

1. Apparatus for analysis of biological materials comprising:
 - a plurality of heating devices, each heating device adapted to receive a slide and each heating device including a heater and a sensor;
 - heating device support, the heating devices being on the heating device support; and
 - control electronics in communication with the heating devices for receiving data from the sensors of the heating devices and for individually controlling the heaters of each of the heating devices.
2. A method for amplifying a target molecule within tissue samples mounted on slides for a biological apparatus of claim 1 comprising the steps of:
 - denaturing target molecules in the tissue sample by independently controlling the temperature of the heaters;
 - annealing at least two oligonucleotide primers to the target molecules by independently controlling the temperature of the heaters;
 - performing polymerase-mediated extension on the annealed oligonucleotide primer-target molecules by independently controlling the temperature of the heaters; and
 - repeating the steps of denaturing, annealing and performing polymerase-mediated extension at least one time.
3. The method of claim 2 wherein the step of repeating is performed a predetermined number of times.
4. The method of claim 2 wherein the step of denaturing includes controlling the heaters so that the temperature is at least 94°C.
5. The method of claim 2 wherein the step of annealing includes controlling the heaters so that the temperature is between 37°C and 65°C.
6. The method of claim 2 wherein the step of annealing includes controlling the heaters so that the temperature is approximately 50°C.
7. The method of claim 2 wherein the step of performing polymerase-mediated extension includes controlling the heaters so that the temperature is between 65°C and 75°C.

8. The method of claim 2 wherein the step of performing polymerase-mediated extension includes controlling the heaters so that the temperature is approximately 70°C.